

AMERICAN SAMOA POWER AUTHORITY

SCOPE OF WORK

DESIGN FOR VAITELE LIFT STATION UPGRADING PROJECT

I. INTRODUCTION

The American Samoa Power Authority (ASPA) owns and operates two wastewater treatment plants (WWTP) and the associated collection system infrastructure on the island of Tutuila. The collection system assets include over 57 miles of sewer mains, 1,500 manholes and twenty (20) lift stations. Additionally, each WWTP includes head-works bar screens, pumps, clarigesters, a UV disinfection reactor and an ocean diffuser. The construction of Tutuila's collection systems began as early as the 1960's and has degraded over the years resulting in deteriorated pipelines and manholes. The two WWTPs, Utulei and Fogagogo, were built in the 1970's. The Utulei WWTP serves the eastern-central portion of the island with a 6.0 MGD capacity and the Fogagogo WWTP serves the western-central portion of the island with a 6.0 MGD capacity. The islands of Ta'u, Ofu and Olosega, as well as many outlying villages on Tutuila, utilize cesspools and onsite septic systems for wastewater handling.

II. PROJECT BACKGROUND

The project will focus on the design of Vaitele Lift Station upgrading and the hydraulic review of the current force main. Currently the existing pump is not able to handle flow from its collection system and this has resulted in backflow and spills that end up into the Pala Lagoon. The study will provide a conceptual plan where ASPA will need to review and decide on the construction drawing and plan for the new Vaitele Lift Station. The upgrading will consider the electrical, mechanical and building and civil upgrading to the system. It will also review the existing force main to determine its hydraulic capacity to meet current and existing demand before deciding on upgrading the force main.

III. PROJECT LOCATION

The project is located as shown on the map below, the red line represents the Vaitele Collection System.



IV. PRIMARY OBJECTIVE AND GOAL OF THE PROJECT:

The primary objective and goal of this project is to upgrade Vaitele Lift Station so it will be able to handle existing and proposed flow with anticipated maximum inflow and infiltration of wastewater flow rate into the system. Upgrading of the Vaitele Lift Station shall include the following:

- 1. Upgrading of Civil, Electrical and Mechanical installations within the lift station
- 2. Installation of standby generator and building and a stand-alone transformer
- 3. Installation of an odor control system that will reduce/eliminate odor within the area.
- 4. Assessing and evaluating the current 8" force main to determine if hydraulic capacity can meet new design wastewater flow and if there is a need to replace the existing force main or upgrade.
- 5. Installation of a new bypass system that will be used when the lift station is taken offline for maintenance or major repair works to be done.
- 6. Eliminate all potential overflow locations within the Vaitele Lift Station collection system.

V. SCOPE OF WORK (SOW)

A. GENERAL

- ASPA has issued this RFP for A/E services from a professional consultant firm with experience in wastewater design to put together a design for Upgrading of the Vaitele Lift Station. The design shall include all process control, mechanical, electrical, and structural components and related appurtenances to allow the facilities to be functional and operable according to ASPA maintenance and operation capabilities and requirements. Appurtenances shall include but will not necessarily be limited to access facilities, fencing, lighting, water connections and power supply including emergency power. The design shall be in accordance with the Ten State Standards, Wastewater Pollution Control Federation, USEPA or other comparable standards. The proposal shall include all personnel, travel, equipment, supplies, overhead and related costs necessary to complete this SOW.
- In general the selected consultant firm shall accomplish the following: 1) The Vaitele Lift Station Upgrading "Conceptual Drawings" and 2) The Vaitele Lift Station Upgrading "Construction Design, Plans and Specifications".
- 3. The Mechanical, Electrical and Civil requirement of the Vaitele Lift Station Upgrading that will define the operational need of this lift station shall guide the conceptual approach and discussion.
- 4. The review of existing 8"force main shall be considered as well in the conceptual design and design to see whether the hydraulic capacity of this force main will be able to contain and handle the current and future flow, 20yr to 30yr design flow.
- 5. If the review proved that the force main hydraulic capacity shall not meet current and future demand then design for new force main shall be considered inn this process.
- The consultant firm shall also carry out an assessment on the existing building structure and provide a report and recommendation on the structural integrity of the building.
- 7. The consultant shall also look at a bypass plan that will divert wastewater into the force main while upgrading works are in progress and when the lift station will need to be put offline for maintenance and any repair work to be done.
- 8. Once the Conceptual Drawings are complete, the selected firm shall know at that time the Electrical, Mechanical and Civil requirement including Hydraulics, Building Structures of the Vaitele Lift Station Upgrading. The firm shall then decide to take this information and produce the Survey Plan and the Construction Design, Plans and Specifications.
- 9. For Offerors to bid a cost to produce the Land Survey, if required by the Construction Design, Plans and Specifications, use the existing footprint of the lift station plus 20 ft and also the existing force main alignment.
- 10. The bidder shall review the existing Vaitele Lift Station's Electrical, Mechanical and Civil to make sure everything recommended as part of the scope for upgrading is addressed accordingly.
- 11. ASPA shall provide selected firm with the following:
 - Schematic maps of the existing Tafuna WW collection system and the Water Distribution system, as-built for Vaitele LS and force main. Accuracy of maps vary. Some maps are accurate to within one foot, and other maps are accurate to within 5 feet. Some of the WW and Water utilities have been surveyed and others not. Selected firm shall verify the accuracy of the maps provided.

- An ASPA staff and contact person, the ASPA Project Engineer, to work closely with the selected firm.
- ASPA Wastewater Department documents related to our design standard details and specifications.
- Water consumption information if required
- Note, The WW Utility Plan is currently ongoing by JUB Engineers out of Utah. ASPA will provide their contact information. The WW Utility Plan will include WW loading and flow calculations for this collection system. Therefore, the selected firm shall collaborate with JUB and agree on these WW related calculations.
- Right of way (ROW) services if required.
 - When and as required our ASPA ROW will be available to deal with any land issue pertaining to this project.
 - ASPA ROW work is critical, if there is a need to go out of the current and existing footprint
 - Any assistance from the ASPA ROW staff throughout the project must be requested at least two days ahead of time.
 - Note, if there are any landowner issues the ASPA ROW must be contacted to handle the situation.
- ASPA Archaeology services.
 - After the Conceptual Design is complete the ASPA Archaeology staff can verify location and foot print for the bypass system.
- 12. At the beginning of the project, the selected firm shall submit a well thought out timeline/schedule of critical task completion milestones with summary descriptions approved by ASPA.
- 13. The selected firm shall familiarize itself with the American Samoa Government (ASG), ASPA, the project area (terrain, the villages) and the public wastewater system, the public water system, other nearby utilities and other elements that may have an impact on this project.
- 14. The selected firm shall meet regularly with ASPA and the ASPA Project Engineer, at least once a month to discuss project schedule, progress, proposed design and any issues that may arise.
- 15. Bid submission indicates familiarity with and acceptance of existing conditions in American Samoa, the project site and at ASPA. No claim for additional compensation will be allowed which is based upon a misunderstanding or lack of knowledge by the Bidders.
- 16. The selected firm will develop, as lead by and recommended by their professional Engineer of Record (EOR) conceptual drawings, detailed designs for construction, specifications, cost estimates, SOWs for the Owner for the purpose of Materials Request for Quotes (RFQ), and Construction Bidding documents.
- 17. The selected firm shall coordinate with other government agencies on any of their requirements before any work is to progress, this include permits, road opening etc.

B. MOBILIZATION AND DEMOBILIZATION

- The work consists of the mobilization and demobilization of the contractor's forces and equipment necessary for performing the work required under this design contract. It does not include mobilization and demobilization for specific items of work for which payment is provided elsewhere in the contract.
- Mobilization shall include all activities and associated costs for transportation of contractor's personnel, equipment, and operating supplies and expenses to the site; permits, premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable; and other items specified in the contract documents.
- 3. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the site specifically for this contract.
- 4. Measurement for payment shall be made as a lump sum (LS). Payment will be made as the work proceeds, after presentation of paid invoices or documentation of direct costs by the contractor showing specific mobilization and demobilization costs and supporting evidence of the charges of suppliers, subcontractors, and others. When the total of such payments is less than the lump sum contract price, the balance remaining will be included in the final contract payment. Payment of the lump sum contract price for mobilization and demobilization will constitute full compensation for completion of the work. Payment will not be made under this item for the purchase costs of materials having a residual value, the purchase costs of materials to be incorporated in the project, or the purchase costs of operating supplies.

C. CONCEPTUAL DRAWINGS

- 1. The selected firm shall produce Conceptual Drawings (CD) of the recommended Vaitele Lift Station Upgrading Project and the review of the current force main approved by ASPA.
 - Selected firm shall prepare a CD of actual topographic survey of the area under this project.
 - The CD preparation will probably go through three reviews (back and forth) between firm and ASPA before selecting the final CD.
 - The CD shall set forth proposal for best option that ASPA will need to take for the upgrading of the Vaitel Lift Station and the existing force main.
 - The CD shall include: 1) A map a clear aerial imagery view of the proposed upgrading work, 2) rough/conceptual-level, plan and profile sheets, 3) approximate materials and construction cost, and 4) the approximate operations and maintenance cost. 5) Current hydraulic status of the existing force main in relation to demand and increase in flow.
 - The CD shall assess all existing Mechanical, Electrical and Building & Civil installation and provide recommendation and estimated cost of improvement/upgrading to existing structure and this shall help ASPA to decide the best way forward. This process of selecting the recommended option shall be explained in a 3 page report. The key assumptions and

reasoning behind the recommended report shall include but it is not limited to the following:

- Upgrading to all Electrical Installation, using of VFD Controls and New Electrical Panels
- Upgrading to all Mechanical Installation, pipeworks, pumps, flow meter, valves etc.
- Structural Integrity of the existing structure and new structure if required within the existing footprint.
- Hydraulic Analysis and wastewater flow data into the Lift Station and out of the Lift Station.
- Hydraulic analysis of the existing force main in relation to hydraulic capacity.
- Any regulatory requirements
- Propose cost estimates
- environmental impacts and recommended mitigation
- The CD shall also look at odor control issues which will be an issue once the load into the lift station increases. Currently, odor issues have been raised on a few occasions.
- The CD shall also consider a sizable generator for the lift station and this generator shall have provision for automatic transfer switch
- 2. After all this is done, the selected firm can begin their land survey for design purposes if necessary.
- 3. The ASPA Archaeology staff want to be kept informed of any proposed upgrading works and they will use the CD to verify the foot print and provide advice on any archeological finding or installation within the proposed footprint.
 - This work by ASPA Archaeology staff will take about two weeks to complete their findings.
- 4. Note, ASPA ROW and Archaeology may recommend CD re-routing in some areas, which the selected firm shall take into consideration and then determine alternate routes.

D. LAND SURVEY

- 1. The selected firm will be doing detailed topographic survey, civil 3d database and GIS shape files for the project sites that will affect the generation of the hydraulic calculations and construction designs.
- 2. This section shall cover the complete costs of providing all labor, equipment and materials required to complete all survey work needed for the design required under this SOW. It shall be the selected firm's responsibility to have a Registered Surveyor and to coordinate and work with ASPA's Survey Department to make sure all survey output is in conformance to ASPA's survey standards, standard datum and coordinates and compatible with ASPA Survey's software, Traverse PC.
- 3. Limited Potholing: The selected firm shall perform three (3) exploratory excavations as required to collect schematic map and as-built information to verify the depth, location, alignment, size, and material of existing underground utilities or structures. Locate the existing utility, verify the required information, backfill the excavation, and restore the surfacing to an equal or better condition.

- 4. Database: The survey shall also include raw data in Excel format containing survey descriptions such as but not limited to; Unique ID, X-coordinate, Y-coordinate, Z-coordinate, Description and Size, etc.
- 5. The firm shall provide a comprehensive land survey to fully describe the physical environment within the footprint of the Vaitele Lift Station.

E. CONSTRUCTION DESIGN, PLANS AND SPECIFICATIONS

- 1. Building & Civil and Structural Engineering, this to include all civil works and building repair and upgrading work for all structures within the lift stations. We need to keep the structural and architectural features of the roof but need to be remodeled for aesthetic nature to maintain current local features.
- 2. Based on the existing setup and a thorough land survey and using ancillary data available for water use patterns and quantities, a water use and wastewater flow estimate shall be developed in collaboration with JUB Engineers who are currently preparing the WW Utility Plan. The current and future water use and wastewater flow estimate shall be projected out to 30 years in the future.
- 3. Construction Design and Plans: Detailed design engineering/architectural drawings for construction of the upgrading of Vaitele Lift Station shall be included as part of this RFP. All drawings shall be prepared in accordance with Standard US Industry Practices for civil, structural, electrical, mechanical and environmental engineering design. The drawings shall include but not necessarily be limited to plan and profile sheets, site layouts, engineering data, material takeoff lists, observed geotechnical findings, hydraulic and energy profiles, hydraulic model and analysis, schematics, process diagrams and descriptions, standard details, electrical detail, structural details, mechanical details, schematics and one-line diagrams. Design drawing shall include connection to existing pipeworks, tie-in scheme, relevant specific details and the tie-in steps/methods.
- 4. Specifications: Technical Specifications shall be prepared for all items to be designed and/or or included in the Invitation for Bid for Design Contracts for the facilities and/or infrastructures developed under this SOW. The construction specifications shall be prepared according to the most recent Construction Standards Institute (CSI) format. In addition, any special conditions that must be addressed or followed in order to construct the facilities shall be identified in specifications
- 5. **Construction Bid Form/Schedule:** Once the Construction Design Plan is substantially completed, a draft Construction Bid Form/Schedule shall be prepared that includes all pertinent items included in the construction plans and specifications. The Construction Bid Form/Schedule shall be prepared for a unit cost, firm fixed-price contract and allow ASPA to utilize it as the basis for a construction contract for the facilities designed under this RFP.
- 6. **Schedule:** Design work activities/tasks, as provided by the A&E Firm in their proposal, shall be appropriately highlighted in the schedule.
- 7. **Erosion Control and Drainage:** Erosion control and drainage measures and facilities shall be included in the design including drainage structures, retaining walls, pipe dams, stream bed protection and other elements that will ensure erosion control and drainage is accomplished according to best management practices applied for similar projects or infrastructure.

- 8. **Restoration and Repair:** The design shall include all necessary restoration and/or repair for existing structure that may need to be removed and/or replaced and conduct the work as set forth in the project scope of work. Pictures to be taken before and after to confirm the current status of the structure.
- 9. **Odor Control:** The design shall also include odor system design that will suit this lift station and to control odor issues within the area.

10. Retrofitting and Upgrading of Existing Buildings:

- i. The Design/Builder shall provide proper selection and identification of the best retrofit options for existing Vaitele Lift Station Building. It includes complete investigation of structural component system e.g. timber roof framing, structural concrete frame & foundation.
- ii. It shall be engineered in accordance with the specified code and design loading and shall transfer positive acting loads at each attachment location into an existing structural member.
- iii. Design/Builder to furnish labor, material, tools, equipment and services.
- iv. Although such work is not specifically indicated, furnish and install supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete retrofitting.
- b. Work Included:
 - i. Existing Concrete Structural Framing Analysis & Proposed retrofit design.
 - ii. Replacement of Existing Roofing Materials.
- c. SYSTEM DESCRIPTION: Building dimensions, location, orientation and all details that will be used for the analysis & design stage shall be the results of the preparatory requirements of this scope.
- d. Structural Requirements:
 - i. Building Code: IBC and ASCE-7 current edition
 - ii. Design Loads:
 - a. Dead Load: self weight of building system
 - b. Roof Live Load: 20 psf
 - c. Concentrated Live Load: 4000lb
 - d. Wind Load: Wind speed (3 sec gust) : 160mph
 - e. Wind Exposure: Maximum consideration
 - f. Seismic Load: Maximum consideration
 - g. Load Combinations: Comply with Building Code
 - **11. Standby Generator:** The designer scope of work relating to the Standby Generator shall be , but not limited to the following:
 - Identify the power requirements of the wastewater lift station, including peak load demands and critical equipment that need to be powered during outages
 - Develop detailed engineering drawings and specifications for the standby generator system and automatic transfer switch.
 - Select an appropriately sized generator based on the power requirements of the lift station and factors such as fuel type, emission regulations, and environmental considerations.

- Design the automatic transfer switch system to ensure seamless transfer of power between the utility grid and the generator within milliseconds of a power outage.
- Ensure that the design complies with all relevant codes, standards, and regulations, including local building codes and NFPA standards.
- **12. Pumps and Fittings:** The designer scope of works for the Pumps and Fittings are listed below, but not limited to the following:
 - Review the existing pump capacity, flow rate and total dynamic head
 - Design the new pump capacity that will be able to meet the demand for this lift station
 - They shall consider the additional flow coming into the lift station and then design for 20-30yrs return period or better
 - The pump and motor sizes are to be compatible with the power supply and frequency available on the island
 - Consideration to be given on the ease of maintenance of pump and motor based on the technical capabilities available on the island
 - They shall also review all existing pipeworks, pipe supports, connections, valves, fittings and shall be replaced with better quality materials to withstand corrosion.
- **13. Electrical Panel:** The designer scope of work relating to the Electrical Panel shall be , but not limited to the following:
 - Design Requirements:
 - Review and understand the specifications and requirements of the wastewater lift station
 - Determine the electrical load requirements for the lift station
 - Design a comprehensive electrical panel layout that meets the operational needs of the lift station
 - From the electrical load demand, determine the need for a dedicated transformer to supply only the lift station.
 - Include provisions for future expansion and scalability
 - Components and Features:
 - Select appropriate components for the electrical panel, including circuit breakers, relays, contactors, meters, and other necessary devices
 - Include necessary safety features such as emergency stop buttons, overload protection, and grounding
 - Incorporate remote monitoring and control capabilities for efficient operation and maintenance
 - Schematic Diagrams and Wiring:
 - Prepare detailed schematic diagrams of the electrical panel layout.
 - Provide wiring diagrams that clearly outline the connections between components.
 - Ensure proper labeling of all components and wiring for easy identification and troubleshooting.
 - Equipment Specifications:

- Specify the type, model, and ratings of all electrical components used in the panel.
- Ensure compatibility and reliability of all components within the system.
- Consider energy efficiency and environmental impact in component selection.
- Testing and Commissioning:
 - Develop a testing and commissioning plan for the electrical panel system.
 - Conduct thorough testing to verify the functionality and safety of the panel.
 - Provide documentation of testing results and certifications.
- Documentation and Training:
 - Prepare operation and maintenance manuals for the electrical panel system.
 - Provide training to maintenance staff on the operation and troubleshooting of the panel.
 - Ensure all documentation is comprehensive and easily accessible for future reference.
- Project Management:
 - Coordinate with other stakeholders, contractors, and engineers involved in the project.
 - Maintain regular communication to ensure project milestones are met.
 - Address any issues or changes promptly and efficiently.
- Health and Safety:
 - Adhere to all relevant health and safety regulations during the design and installation process.
 - Implement safety measures to protect personnel during installation, testing, and maintenance activities.
- Deliverables:
 - Detailed design drawings, including schematic and wiring diagrams.
 - Equipment specifications and procurement list.
 - Testing and commissioning documentation.
 - Operation and maintenance manuals.
 - Training materials for maintenance staff.
- Timeline:
 - Provide a detailed timeline for the design, procurement, and installation, testing, and commissioning phases of the project.
 - Ensure timely completion of all project deliverables.
- Budget:
 - Provide a detailed budget breakdown for the design and implementation of the electrical panel system.
 - Monitor costs throughout the project to ensure adherence to budget constraints.
- Approval and Sign-Off:
 - Obtain approval from the relevant authorities and stakeholders upon completion of the project.
 - Ensure all project documentation is signed off and archived for future reference.

- **14. SCADA System:** The designer shall make sure that all software and hardware for SCADA shall be compatible with our current SCADA System. Provision needs to be made to allow for synchronization of all software and hardware requirements.
- **15. Bypass System:** The designer shall come up with a proper bypass system that will be operated when the Lift Station is taken offline for maintenance or urgent repair work which will require the Lift Station to be shut down for a few hours to allow work to be done. The bypass system shall be available to be used during implementation and construction period.
- 16. Force Main: The designer shall
 - Review the capacity of the existing force main.
 - Review route of the existing force main
 - Design new force main as per review and recommendations.
- 17. Engineer's Cost Estimates: Once the Design Plan is substantially completed, a detailed engineer's cost estimates shall be prepared in accordance with the items included in the draft construction bid form/schedule that conforms to applicable industry standards such as RS Means Estimating Manuals and Guidelines. Appropriate indexes that account for inflation and other factors that are pertinent to American Samoa including special logistical constraints are to be included. A&E firm shall also provide a Material List of all materials required to complete construction to allow ASPA to utilize it for a Request for Quotes (RFQ). Cost estimates shall include capital costs, annual O&M costs, and annual O&M costs per wastewater treatment.
- 18. Value Engineering: In accordance with USEPA Federal Funding Requirements, a Value Engineering Analysis (VEA) shall be completed for the facilities to be constructed. The VEA will strive to ensure the design results in maximum cost efficiency for operation and maintenance of the facilities.
- 19. **Design Calculations:** Provide engineering analysis (structural, geotechnical, mechanical, electrical, hydrological and hydraulic (H&H), Mechanical, Electrical, Controls etc.) and design calculations for all and every infrastructure necessary to complete the requirement of this scope of work such as but not limited to: pump concrete encasement, reinforce concrete jacket, pavement design, thrust block, pipe support/hangers, box culvert, concrete vault, gratings, pipe bedding, pipe buoyancy protection and as requested by ASPA.
- 20. **Design Presentations:** Selected firms shall provide five presentations, one of the 50% CD, the second on the final CD, the third on the 30% design, the fourth on the 60% design, and the fifth on the 90% design. After each presentation, the firm shall incorporate review comments from ASPA into the next updated design draft.
- 21. Bidders shall provide one Post Design presentation of the final ASPA approved Design:
 - The presentation is for the ASPA Executive Director, and engineering staff for up to 15 people.
 - The presentation shall last up to 2 hours, first half to provide a clear explanation of the design and its highlights and the second half to include a question and answer period. Presentation/workshop can be "in person" or by video conference including an agenda and hands on use of the report.
 - Presentation shall be conducted by the Firm's main contributors to the design as well as the professional licensed staff who approved the report. The goal is for the audience to thoroughly understand the design, the design's analysis of

the Vaitele Lift Station Upgrading and the recommended option, and associated implementation impacts and related topics.

22. Minimum Deliverables:

- Note, the selected firm shall keep design, project documents, and report sections sized 20MB or less to make emailing sections of the report easier.
- Detailed Architectural and Engineering Construction Plans on 24" x 36" Bond Paper stamped by a U.S. Registered Professional Engineer (PE) or Registered Architect (RA) for all pertinent items within the SOW as required.
- A 3 to 5 page summary of Design with schematics.
- A Value Engineering Analysis for the completed design stamped by EOR as required.
- A Bid Schedule for all components of the Vaitele Lift Station and facility upgrades, and significant tasks within the SOW.
- A detailed cost estimate for all items in the Bid Schedule including direct cost, overhead, contingencies, profit, bonding and shipping;
- Prepare a scope of work for the construction and upgrade of the lift station that shall be bid out for potential bidder as part of the request for proposal.
- A schedule for provision of the deliverables by the Consultant to ASPA in Gantt and PERT Chart formats.
- Conceptual drawings, engineered and stamped documents related to the design such as hydraulic modeling report, value-engineering analysis, calculations, technical specifications and standards.
- Detailed technical specifications, stamped by a registered US Registered Professional Engineer as mentioned above.
- An Operations Plan outlining methods and means by which the facilities will be operated and maintained within the resources and/or capabilities of ASPA.
- Operation and Maintenance manuals addressing all mechanical, electrical, process and control components for Vaitele Lift Station.
- Milestone schedule and timeline to completion with summary descriptions.
 Updated at least every couple months.
- Shall generate a monthly report on progress specifying challenges, milestones or any other concern which ASPA needs to be aware of before it is too late.
- Post report presentation on PowerPoint slides, summary and agenda.
- Three (3) hard bound copies and electronic copies (i.e. AutoCAD, pdf, Excel spreadsheet, ArcGIS) of report, summary, maps, tables, figures and all deliverables.
- Other items as necessary/required.
- 23. The design shall be submitted in logical increments similar to the following:
 - i. Milestone schedule and timeline
 - ii. 30% submittal This shall include completion and approval of Conceptual Design and presentation of findings and comments from ASPA.
 - 60% submittal This shall include the 1st Draft of Construction, Design, Plan and Specifications. Continuous review on the design shall be required in this process

- iv. 90% submittal This shall include the Final Draft and shall include all that is required under the scope of this project and all the deliverables.
- v. Final draft submittal. Final report is complete once ASPA and USEPA approves of and signs Final submittal.
- vi. Each submittal will be followed by an ASPA review with comments within 20 calendar days. These comments shall be addressed and incorporated into the next submittal if recommended. Also, an ASPA comment and selected firm response list shall be maintained and shared with ASPA.